Notice of Allowability	Application No.	Applicant(s)	
	09/539,344	ELLISON C.	
	Examiner	Art Unit	
	Grigory Gurshman	2132	

-- The MAILING DATE of this communication app ars on the cover sh t with th correspond nc address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *Appeal Brief filed on 12/21/2004*.

2. ☒ The allowed claim(s) is/are *1-22,24-40 and 61-99*.

3. ☒ The drawings filed on *11 June 2004* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

Allowable Subject Matter

1. Claims 1-22, 24-40 and 61-99 are allowed.

2. The following is an examiner's statement of reasons for allowance:

Referring to the instant claims, Greenstein (U.S. Patent No. 5.809.546) discloses a method for managing I/O (input /output) buffers in shared storage, including storage keys for controlling accesses to the buffers (see abstract and Fig. 1). Greenstein teaches protecting the storage within the computer system against unwanted CP (central processor) access. Greenstein also teaches the use of CP keys provided for protecting against unwanted accesses by any CP in the system. The I/O keys must be supported by a hardware I/O storage array when only real (or absolute) addressing is used by I/O programs. However, the CP keys may be supported by either real CP keys in a second hardware key array; or alternatively the CP keys may be provided as virtual CP keys in a field in each page table entry (which is used for translating CP virtual addresses to CP real addresses) –see abstract and Figs. 1-6).

3.2 Referring to the independent claims 1, 21, 61 and 81, Greenstein teaches the computer system (100 in Fig. 1), which has operation system and subsystems (104). While Greenstein shows the CPU (101), which is connected to the security devices (105 and 110) he does not, however, teach or suggest the limitation "a processor executive (PE) executable on a processor to load an operating system executive (OSE)". Greenstein also teaches CPUSKs 309 (in Fig.3), which do not protect against storage

alteration by I/O channel programs, but he does not teach "secured environment having a fused key (FK) and associated with an isolated memory area in a platform".

Greenstein teaches a storage controller (105 in Fig.1) connected with the storage protection array (110), but he does not teach the limitation " the isolated memory area being accessible to the processor in the isolated execution mode".

The limitation "load an operating system executive (OSE) in a secure environment" is also not taught by Greenstein, although he discloses a system control program (113).

Greenstein does not teach the use of *a PE supplement comprising a PE manifest.*

While Greenstein shows the CPU (101) and storage controller (105) having protection check unit (111 in Fig.1), he does not teach or suggest verifying the PE, using the FK and the PE supplement.

3.3. Referring to the instant claims, Branigin (U.S. Patent No. 4.419.724) discloses a main bus interface package (see abstract). Branigin teaches that Central Processors (CPU) is connected to an M BUS with the Main Storage Processors (MSP). As a typical operation, the CPU might wish to communicate with an MSU. The CPU would contend for priority on the M-BUS and when granted access might place on the M-BUS a word wherein byte 1 contains the destination ID. The function code in byte 0 of the word placed on the M-BUS might tell the MSP that it should retrieve data from main storage. Branigin teaches that verification is done by checking the CPU ID accessing a Storage Unit through the M-BUS (see column 18, lines 43-63). Branigin, however does not teach or suggest "verifying the PE, using the FK and the PE supplement, verification is performed by PE handler".

3.4 In view of reasons presented herein claims 1-22, 24-40 and 61-99 are in condition for allowance.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Grigory Gurshman whose telephone number is (571)272-3803. The examiner can normally be reached on 9 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on (571)272-3799. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Grigory Gurshman

GILBERTO BARRON JR
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